

Testing New Guns at Indian Head

Uncle Sam is spending an average of \$300,000 a year for ammunition with which to test the guns he places on his warships, and which, after it has served that purpose, lies for the most part, at the bottom of the Potomac river. Such is the sad tale of the shell which is never used to destroy the enemies of this country, but to prove that the gun is perfect and will not explode.

The place where the guns are tested is at Indian Head, Va., twenty-seven miles down the river—a place which might well be termed "the exclusive," for the officials of the Navy Department who have charge of Indian Head jealously guard it against the inroads of the "write-up man" and the photographer.

Every gun which is used on the United States vessels must first go through a rigorous examination at Indian Head. This holds good even in the case of the few guns which are not made at the navy yards here, and, although they are first tested at the factory, they still must pass muster before Uncle Sam's own selected experts in the matter. This is also the case when armor is bought. In such cases test plates are sent to Indian Head and examined there before a final decision is rendered as to its quality.

While it would appear on the surface that \$300,000 was a considerable amount of money to spend annually for the purpose of simply testing guns and plates, navy officials do not feel so. They declare, on the contrary, that it is better to pay that amount of money in testing the guns than to let them pass without the proper inspection, and explode when on a vessel, and thus jeopardize the lives of the crew as well as the ship itself.

The guns used in the United States Navy range from the one-pounder to the fourteen-inch guns, there being thirteen in all. Each time that one of the one-pounders is discharged it costs the government only \$1.25, but in the case of the fourteen-inch gun the cost reaches the three-hundred-dollar mark. These figures represent the price of the projectile used in testing the guns as well as the powder. The powder used in both testing and actual firing in time of war is the same, but the projectile differs. While the cost of firing the one-pounder in time of war would still be reasonable, the fourteen-inch gun would cost the government approximately \$600 each time it was discharged. This tends to support the saying, "In time of peace prepare for war," and shows in addition that probably Uncle Sam knows more than anybody else just what the cost of following such advice means.

There are between fifteen and twenty guns tested at Indian Head every month, with an average discharge of three hundred odd projectiles, which makes the average monthly cost something like twenty-five thousand dollars. In testing, not only the gun itself is tried to ascertain whether or not it is perfect, but the projectiles are tested as well as the powder. If the government

is making experiments along these lines it is done in conjunction with testing the guns, and thus answers two purposes. The velocity of a projectile is also found by sighting the gun so that the shell will pass through two wire screens, electrically arranged, so that they record the time of passage through each one. This makes it possible to gauge the velocity, as the distance between the two screens is a known quantity.

In testing the guns a specially arranged bombproof fort-like arrangement has been built to protect the men making the experiments. This is built within a short distance of the place where the guns are fired. The gun is aimed, loaded and made ready to fire. The men then retire into the house and at a given signal from a man posted within sight of the gun, but outside the danger zone, a string is pulled by the men inside which fires the gun. By this advice the guns are tested and at the same time the danger is removed, and the navy death list shows only one or two names of men killed while on duty testing guns.

Two targets are used for testing purposes. One is a sand butt, the other, called a "range," is simply down the Potomac. When the first target is used the projectiles discharged are for the most part armor piercing, or those used in actual service. This target is so arranged that a considerable number of the shell hitting will fall into a sand bank from which they can be dug and perhaps used again. But for long range firing the Potomac river has to serve as a target, with the result that of all the shells fired at Indian Head, nearly five-sixths eventually repose in the river bed. Of course in firing the guns the powder explodes, but the projectiles themselves are expensive, ranging from approximately less than a dollar for the one-pounder up to fifty for the fourteen-inch gun. In this way it can be estimated that each month over \$4000 worth of shells find a resting place at the bottom of the Potomac, which in a year would amount to fifty odd thousand dollars. If the figures are carried out for the entire time that Indian Head has been used as the navy proving grounds they will reach seventy-five hundred thousand dollars, as Indian Head was first used in that connection in 1896. If these could be gotten within a short time after they had been fired, it is believed that in many cases they would be fit to use again. As it is, however, they become rusted, and if regained are good only to sell as scrap iron.

It is in the latter form that many of the old projectiles are sold, both the target and armor-piercing. At regular intervals the government sells at auction the accumulated mass of scrap iron, which is sold to the highest bidder, and sometimes remade into projectiles which are again sold to the government. In connection with the projectiles which are at the bottom of the Potomac some interesting theories have been expressed as to a means of regaining them. One man, a chemist at the proving grounds, believes that if a huge magnet could be lowered into the water it would attract

and hold the projectiles, thus bringing them up. The greatest drawback to this scheme seems to be the question as to whether or not the magnet would work through several feet of mud, as that is what is at the bottom of the river, and the projectiles most likely are imbedded in it. Another drawback is the fact that even though the projectiles are at the bottom of the river the United States government does not relinquish its claim upon them, and were they regained would pay only as much as they would bring in the open market as scrap iron, whereas the chemist wanted the right to recover them himself.

In connection with this phase of the work one of the officers conversant with affairs at Indian Head, and abroad also, gave some interesting data regarding the methods employed by other countries in testing their guns.

"In Germany they use what is called a land range. This is composed of a large tract of ground, which has been condemned and is used for no other purpose. When a projectile is fired it falls to the ground, and men whose duty it is to watch where each falls. Following a test men are sent out and dig up the projectiles used.

"In England they have a different method. They do their firing down a beach on which the high and low tide is very marked. They do their firing at high tide, apparently into the ocean, but at low tide the beach is clear, and the poor people of that district go out and recover the shells and sell them back to the government.

"But as long as the United States continues to use Indian Head as a proving ground either method is impracticable, and it is hardly probable that a method will soon be devised by which the projectile shot into the river will be recovered, which, however, would be gladly taken up by the government should one prove feasible."

THE WHEREFORE.

"Your daughter practises on the piano faithfully, I notice. Now mine hates it."

"Mine does too. But she'd rather practise all day than help with the housework."—Louisville Courier-Journal.

FUTURE GAINS FOR PRESENT NEEDS.

"I shouldn't mind having my contributions paid for on publication, were it not—"

"What?"

"That my meals have to be paid for on acceptance."—Lippincott's.

A SCARECROW.

Miss Brush—"I suppose you don't mind my being in your field, Mr. Gobel."

Farmer Gobel (heartily)—"The longer you stay, the better, Miss. Fact is, the birds 'ave been very troublesome this season."—London Tatler.

THE REASON WHY.

Young Bride—"I didn't accept Harry the first time he proposed."

Miss Ryval—"No, dear, you weren't there."—Boston Transcript.

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